

Claims

1. A display controller for reducing power consumption of an electro-optical image display, comprising:

a source of a set of image data words corresponding to individual pixels of an image;

an output port for making available to the electro-optical image display a modified set of image data words corresponding to individual pixels of the electro-optical image display; and

a mode control circuit adapted to substitute for a selected subset of the set of image data words the image data words from one or more contiguous pixels and to provide the resulting modified set of image data words to the output port to be made available to the electro-optical image display.

2. The controller of claim 1, wherein the electro-optical image display is a two-dimensional image display.

3. The controller of claim 1, wherein the electro-optical image display is a liquid crystal display.

4. The controller of claim 3, wherein the electro-optical image display is a two-dimensional display.

5. The controller of claim 4, wherein the selected subset of image data words comprises a subset of the image data words having a selected spatial periodicity.

6. The controller of claim 5, wherein the number of contiguous pixels whose image data words are substituted may be selectively determined.

7. The controller of claim 5, wherein the data words of the modified set of image data words are made available to the electro-optical display serially, and the contiguous pixels whose image data words are substituted precede the image data words for which they are substituted.
8. The controller of claim 7, wherein the number of contiguous pixels whose image data words are substituted may be selectively determined.
9. The controller of claim 1, wherein the selected subset of image data words comprises a subset of the image data words having a selected spatial periodicity.
10. The controller of claim 9, wherein the number of contiguous pixels whose image data words are substituted may be selectively determined.
11. The controller of claim 10, wherein the image data words of the modified set of image data words are made available to the electro-optical display serially, and the contiguous pixels whose image data words are substituted precede the image data words for which they are substituted.
12. The controller of claim 11, wherein the number of contiguous pixels whose image data words are substituted may be selectively determined.
13. The controller of claim 1, wherein the image data words of the modified set of image data words are made available to the electro-optical display serially, and the contiguous pixels whose image data words are substituted precede the image data words for which they are substituted.
14. The controller of claim 13, wherein the number of contiguous pixels whose image data words are substituted may be selectively determined.

15. The display controller of claim 1, wherein the source of image data words comprises a memory and a memory controller, and the mode control circuit comprises a display interface circuit.

16. The display controller of claim 15, further comprising an input port for receiving image information from a data processor for storing an image in the memory.

17. The display controller of claim 16, wherein the input port comprises a host interface circuit for receiving data and providing that data to the image data memory controller for storage in the memory.

18. A digital display system including the controller of claim 1, and further comprising a data processor for providing image information to the source of a set of image data words corresponding to individual pixels of an image, and an electro-optic display for receiving image data words from the output port and displaying the same.

19. A digital display system including the controller of claim 1, and further comprising a camera for providing image information to the source of a set of image data words corresponding to individual pixels of an image, and an electro-optic display for receiving image data words from the output port and displaying the same.

20. A method for reducing power consumption of an electro-optical image display, comprising:

providing a set of image data words corresponding to individual pixels of an image;

substituting for a selected subset of the set of image data words the image data words from one or more contiguous pixels; and

making available to the electro-optical image display the modified set of data words resulting from the substituting.

21. The method of claim 20, wherein the image is a two-dimensional image.
22. The method of claim 20, wherein the making available is done in a format suitable for a liquid crystal display.
23. The method of claim 22, wherein the image is a two-dimensional image.
24. The method of claim 23, wherein the selected subset of image data words comprises a subset of the image data words having a selected spatial periodicity.
25. The method of claim 24, wherein the number of contiguous pixels whose image data words are substituted is selectively determined.
26. The method of claim 23, wherein the image data words of the modified set of image data words are made available to the electro-optical display serially, and the contiguous pixels whose image data words are substituted precede the image data words for which they are substituted.
27. The method of claim 26, wherein the number of contiguous pixels whose image data words are substituted is selectively determined.